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REMARKS

The present Response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 1-3, 6, 7, 9, 10, 13, 15, 19, 20, 22 and 24 are pending. Claims 1, 3, 9 and 19 have been amended. No new matter has been added. Claims 1-3, 6, 7, 9, 10, 13, 15, 19, 20, 22 and 24 have been rejected.

Claims 11, 28-30 and 32 have been canceled without prejudice or disclaimer. In making this cancellation without prejudice, Applicants reserve all rights in these claims to file divisional and/or continuation patent applications.

Claim Objection

In the Office Action, the Examiner objected to claim 3 because of alleged informalities. Claim 3 has been amended in order to cure these informalities. Accordingly, Applicants request withdrawal of the objection.

CLAIM REJECTIONS

35 U.S.C. § 112 Rejection

In the Office Action, the Examiner rejected claims 3, 9 and 19 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 3, Claim 1 as amended recites "adaptively selecting a coding mode of each orthogonal frequency division multiplexing (OFDM) sub-carrier symbol of a data stream to be coded either in a diversity mode or to be coded in a multiplexing." Claim 3

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claims the case when all the symbols in the data stream are selected to be coded either in diversity mode or spatial multiplexing mode.

Claims 9 and 19 have been amended to overcome the antecedent basis deficiencies noted by the Examiner. It is respectfully asserted that the foregoing amendment merely addresses matters of form and does not change the literal scope of the claim in any way or result in any prosecution history estoppel.

Applicants respectfully assert that these amendments render claims 3, 9 and 19 proper under 35 USC 112 and request that the rejections be withdrawn.

35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claims 1-3 and 5-7 under 35 U.S.C. § 103(a), as being unpatentable over Greenstein et al. (US 6,131,016) in view of Walton et al. (US 2006/0193268) and further in view of the background of Applicant's specification. Applicant respectfully traverses this rejection in view of the remarks that follow.

It is well established that obviousness requires a teaching or a suggestion by the relied upon prior art of all the elements of a claim (M.P.E.P. §2142). Without conceding the appropriateness of the combination, Applicant respectfully submits that the combination of Greenstein, Walton and alleged admitted prior art in the background of the Applicant's specification (referred to by the Examiner as "AAPA") does not meet the requirements of an obvious rejection in that none teaches or suggests a MIMO system where each symbol of the data stream is coded either according to a diversity mode or a multiplexing mode according to a feedback data packet having a coding information related to the selected OFDM subcarrier symbol.

Greenstein discloses a base station having two antennas and a mobile station having a signal antenna, and using a diversity scheme to set in each OFDM data stream a pilot tone to be transmitted by different antenna according to a feedback signal.

Walton discloses an OFDM MIMO system and selecting different diversity schemes to be implemented on the entire data stream. AAPA paragraphs [002] and [003] recite (Applicant notes that the Background was amended in Applicant's March 9, 2009 Response.):

MIMO system may include a diversity MIMO system or multiplexing MIMO system. In the diversity MIMO system incoming bits may be coded over multiple transmitting antennas to gain sensitivity by exploiting multi path propagation channel property. In the multiplexing MIMO system the multiple transmitting antennas may be used to convey multiple modulated streams of data. In this MIMO system spatial decoding methods may be used to decode the modulated data streams.

A MIMO system may use orthogonal frequency division multiplexing (OFDM) systems coding for multiplexing or diversity evenly on the entire OFDM sub-carriers symbol without any discrimination. ...

Specifically, with regard to independent claims 1 and 6, Applicant respectfully submits that the combination of Greenstein, Walton and AAPA does not disclose or fairly suggest "adaptively selecting a coding mode of each orthogonal frequency division multiplexing (OFDM) sub-carrier symbol of a data stream to be coded either in a diversity mode or to be coded in a multiplexing mode according to a feedback data packet having a coding information related to the selected OFDM subcarrier symbol ..." as claimed in independent base claim 1 and "...coding each symbol of the first subset of sub-carriers and the second subset of carrier is done according to a feedback data packet having a coding information of each selectable OFDM subcarrier symbol..." as recited in independent claim 6.

Each of claims 2, 3 and 5 depends from claim 1 and claim 7 depends from claim 6. Thus, in addition to any independent bases for patentability, Applicant respectfully submits that claims 2, 3, 5, and 7 are similarly patentable over the cited references by virtue of at least such dependency.

Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-3 and 5-7 under 35 U.S.C. § 103(a), as being unpatentable over the combination of Greenstein, Walton and AAPA.

In addition, in the Office Action, the Examiner rejected claims 9, 13, 15, 19, 22 and 24 under 35 U.S.C. § 103(a), as being unpatentable over Kim et al. (US 20040132496) in view of Walton et al. (US 20060193268) and further in view of AAPA.

With regard to independent claims 9 and 19 as amended, Applicant respectfully submits that none of Kim, Walton and AAPA taken alone, and/or in combination, discloses or suggests at least "... a coding mode selector to select a coding mode of a symbol of said first and second orthogonal frequency division multiplexing (OFDM) sub-carriers symbols streams according to a feedback data packet having coding information of the OFDM subcarrier symbol wherein, the coding mode is selected from a diversity mode and spatial multiplexing mode for each symbol of the OFDM sub-carriers symbol stream according to the coding information of the feedback data packet ..." as recited in claims 9 and 19.

Each of claims 13 and 15 depends from claim 9 and each of claims 22 and 24 depends from claim 19. Thus, in addition to any independent bases for patentability, Applicant respectfully submits that claims 13, 15, 22 and 24 are similarly patentable over the cited references by virtue of at least such dependency.

Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 9, 13, 15, 19, 22 and 24 under 35 U.S.C. § 103(a), as being unpatentable over the combination of Greenstein, Walton and AAPA.

In addition, in the Office Action, the Examiner rejected claims 10 and 20 under 35 U.S.C. § 103(a), as being unpatentable over Kim et al (US 2004/0132496), Walton et al (US 2006/0193268) and the background of the Applicant's specification in view of Wu et al (US 6,985,434).

As discussed above, each of claims 9 and 19 are allowable over Kim, Walton, and AAPA. Wu does not cure the deficiencies of these references.

Claim 10 depends from claim 9 and claim 20 depend from claim 19. Thus, in addition to any independent bases for patentability, Applicant respectfully submits that claims 10 and 20 are similarly patentable over all the cited references by virtue of at least such dependency.

Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 10 and 20 under 35 U.S.C. § 103(a), as being unpatentable over the combination of Kim, Walton, AAPA and Wu.

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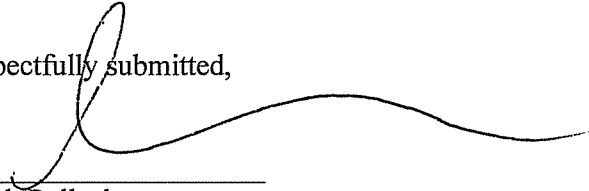
Conclusion

In view of the foregoing amendments and remarks, Applicant asserts that the pending claims are allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

No fees are believed to be due in connection with this paper. However, if any such fees are due, please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,



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